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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/657,824

09/09/2003

Yoonjae Lee

CRS110US

1160

7590

01/13/2005

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EXAMINER

VY, HUNG T

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application N .

10/657,824

Applicant(s)

LEE ET AL.

Examiner

Hung T Vy

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☒ Claim(s) 15 and 17-26 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/29/and 4/02</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### **Acknowledges**

1. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 03/29/2004 and 04/02/2004. The references cited on the PTOL 1449 form have been considered.

### **Specification**

2. The specification has been checked to the extent necessary to determine the presence of possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

The following is a quotation of the appropriate paragraph of 35 U.S.C. § 102 in view of the AIPA and H.R. 2215 that forms the basis for the rejections under this section made in the attached Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29,

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2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

Claims 15, 19-21 are rejected under 35 U. S. C. § 102 (e) as being anticipated by Zhang et al., U.S. Pub. No. 2004/0027291.

Regarding claims 15, and 19-21, Zhang et al. disclose multifrequency antenna comprising: a plurality of nonconducting substantially planar substrates, with a conductive layer disposed on a surface of each planar substrate of the plurality of nonconducting substantially planar substrates; a first substrate (5) of the plurality of nonconducting substantially planar substrates, having a transmission line (4) disposed on a rear surface of the first substrate, and having a first conducting layer (1,2) disposed on a other surface of the first substrate (5), with the first conducting layer including a plurality slotted openings arrayed about an antenna axis (See fig. 10); a second substrate (6) of plurality of nonconducting substantially planar substrates, stacked on the first substrate (5), and having a second conducting layer (7) disposed on a surface of a second substrate of the second substrate (6), with the second conducting layer including a multiplicity slotted (7a) openings arrayed about an antenna axis (See fig. 10); and a third substrate (13) of the plurality of nonconducting substantially planar substrates, stacked on the second substrate (6) , and having a third conducting layer (3) disposed on a surface of the third substrate (13)(See fig. 10).

### **Claim Rejections - 35 U.S.C. § 103**

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-18, 22-26 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Zhang et al., U.S. Pub. No. 2004/0027291 in view of Lee Y. et al., "Multiband L5 Capable GPS Antenna".

Claims 17-18, and 22-26, Zhang et al. disclose all limitations of invention except for an edge-diffraction reflector attached to rear of the multifrequency antenna, including at least two essentially circular, conducting plates and plurality of conducting cylinders. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Zhang et al. to have an edge-diffraction reflector as taught by Lee Y. et al. The motivation for doing so would have been to provide an edge-diffraction reflector in order to increase suppression.

#### **Allowable Subject Matter**

Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, since the prior art of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed **a lossy-**

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**dielectric-magnetic material for enclosing sides and rear of the multifrequency antenna.**

### **Reasons for Allowance**

5. Claims 1-14 are allowed.

The following is an examiner's statement of reason for allowance:

None of the references of record teaches or suggests a multifrequency antenna comprising, along with all the other claimed feature, **a lossy-dielectric-magnetic material for enclosing sides and rear of the multifrequency antenna.**

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

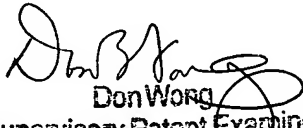
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (571) 272-1954. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 308-7722 for After Final communications.

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Information regarding the status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either private Pair or Public Pair. Status information for unpublished applications is available through Private Pair only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hung T. Vy  
Art Unit 2828

**January 7, 2005**

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800